

**SIMILARITY-DRIVEN SYNTHESIS FOR EQUIVALENCE
CHECKING OF COMPLEX DESIGNS**

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ABSTRACT

A method for modeling a circuit design includes synthesizing the circuit design to create a first gate-level representation of the circuit design. The method also includes analyzing a second gate-level representation of the circuit design to learn architecture information, and resynthesizing the first gate-level representation of the circuit design to incorporate the learned architecture information from the second gate-level representation of the circuit design. A computer-readable storage medium has stored thereon computer instructions that, when executed by a computer, cause the computer to synthesize a circuit design to create a first gate-level representation of the circuit design. The computer instructions also cause the computer to analyze a second gate-level representation of the circuit design to learn architecture information, and resynthesize the first gate-level representation of the circuit design to incorporate the learned architecture information from the second gate-level representation of the circuit design.